

Analysis using Belief Propagation Techniques

Course Seminar Report

Submitted in partial fulfillment of the requirement of University of
Mumbai
For the Degree of

PhD
(Electronics Engineering)

by

Mrs. Chitra Suresh

Under the guidance of

Prof.Dr.Kushal.R.Tuckley



Dr. D. Y. Patil Group's
RAMRAO ADIK INSTITUTE OF TECHNOLOGY
Nerul, Navi Mumbai - 400706
(Affiliated to University of Mumbai)
Jan 2015



Ramrao Adik Education Society's
Ramrao Adik Institute of Technology
(Affiliated to the University of Mumbai)
Dr. D. Y. Patil Vidyanagar, Sector 7, Nerul, Navi Mumbai 400 706.

Certificate

This is to certify that, the Course seminar report titled
“Analysis using Belief Propagation Techniques ”
is a bonafide work done by

Chitra Suresh

and is submitted in the partial fulfillment of the requirement for the
degree of

Phd
in
Electronics Engineering
to the
University of Mumbai.



Examiner

Supervisor

PhD Coordinator

Head of Department

Principal

Acknowledgments

With great pleasure, I avail this opportunity to express my deep sense of gratitude to my guide **Dr.Kushal.R.Tuckley** for his spirited guidance and inspiration. I have deep sense of admiration for their innate goodness and inexhaustible enthusiasm. It helped me to work in right direction to attain desired objective.

I am also thankful to our PhD Coordinator, **Dr. Mukesh D. Patil** who devoted their valuable time and helped me in all possible ways towards successful completion of this work. I thank all those who have contributed directly or indirectly to this work.

I am thankful to our Principal **Dr. Ramesh Vasappanavara** for his support and encouragement.I am also thankful to **M.M.Dongre** Head of Department of Electronics and Telecommunication Engineering for his generous support. I extend thanks to my friends who have done lots of nice things for me.I cannot end without thanking my lovely family for their encouragement.

Chitra Suresh

Abstract

write abstract of the your report here

List of Tables

List of Figures

Contents

Abstract	iv
List of Tables	v
List of Figures	vi

Bibliography

- [1] Judea Pearl Probabilistic Reasoning in Intelligent Systems Kaufmann Morgann Publishers, Second Revised And updated Edition, San Francisco, California, 1998.
- [2] Yu-Chang Andnelson Chang Low Memory Cost Block-Based Belief Propagation For Stereo Correspondence, 1-4244-1017-7187, IEEE Transisition
- [3] F.Besse, C.Rother, A.Fitzgibbon, J.Kautz Pmbp: Patchmatch Belief Propagation For Correspondence Field Estimation University College Of London U.K., Microsoft Research Cambridge, 2012
- [4] Nam Ma, Yinglong Xia, Viktorprasanna Task Parallel Implementation Of Belief Propagation In Factor Graphs This Research Was Suppored By U.S.National Foundation Under Grant No.Cns-101880
- [5] Wonjun Hwang Kyungshik, Roh Junmo Kim Markov Network-Based Unified Classifier For Face Identification This ICCV 2013 Paper is Open Access Available In IEEE Xplore
- [6] Radu Timofte, Lucvan Gool Efficient Loopy Belief Propagation Using The Four Color Theorem Isics, Esat-Psi/Iminds V, Belgium, Computer Vision Lab, Zurich, Switzerland
- [7] Nikos Komadakis, Georgios Tziritas Image Completion Using Efficient Belief Propagation Via Priority Scheduling And Dynamic Pruning IEEE Transactions In Image Processing, Volume;16, No.11, November 2007
- [8] Chia-Kai Liang, Chao-Chung Cheng, Yen-Cheieh Lai Hardware-Efficient Belief Propagation IEEE Transactions On Circuits And Systems For Video Technology Vol;21, No.5, May 2011
- [9] Daniele Codecasa, Fabiostella Learning Continuous Time Bayesian Network Classifiers International Journal Of Approximate Reasoning, 55(2014) 1728-1746
- [10] Pedro F.Felzenszwalb, Daniel P.Huttenlocher Efficient Belief Propagation For Early Vision International Journal Of Computer Vision (Springer Science) 70(1), 41-54, 2006
- [11] Dan Yuan Understanding Belief Propagation And Its Applicatons Department Of Computer Engineering, University Of California

- [12] Erik.B.Sudderth And William T.Freeman Signal And Image Processing With Belief Propagation
Accepted To Appear In IEEE Signal Processing Magazine
- [13] N.Kmodakis And G.Tziritas Image Completion Using Efficient Bp Via Priority Scheduling And Dynamic Pruning IEEE Trans.In Image Process,Vo.16 No.11
- [14] A,Brunton.C.Shu And G.Roth Belief Propagation On Gpu For Stereo Vision IEEE Proceedings Crv 2006.
- [15] Hans Andrea Loeliger An Introduction To Factor Graphs IEEE Signal Processing Magazine,2004
- [16] Jianguo Ding Probabilistic Inferences In Bayesian Networks International Journal Of Computer Science,Arxiv:1011.0935V2,5 November 2010
- [17] Frank R.Kschischang,Brendan J.Frey,Hans Andrea Loeliger Factor Graph and The Sum Product Algorithm IEEE Transactions On Information Theory,Vol47.No.2,Feb,2001
- [18] Judea Pearl Reverend Bayes On Inference Engines:A Distributed Hierarchical Approach Aai-B2 Proceedings 1982
- [19] Heckerman.D. A Tutorial On Learning With Bayesian Networks Technical Report Mst-Tr-95-96,Microsoft Corporation ,Redmond,Wa